

providing a plurality of electrical connections extending between the die, each electrical connection comprising an interconnection between a bump on an upper surface of the first die and a contact pad on a lower surface of the second die.

23. The method of claim 22 wherein a solder connection is provided for the interconnection between a bump on an upper surface of the first die and a contact pad on a lower surface of the second die.

24. The method of claim 22 wherein delivery of electrical stimulation therapy is performed via said circuitry.

25. The method of claim 22 wherein pacing and sensing function are implemented by the circuitry.

REMARKS

The now-canceled original claims were rejected as being anticipated or obvious from Gnadinger (U.S. Patent No. 5,229,647) and/or Akram (U.S. Patent No. 5,808,360). The claims were drawn to a stacked arrangement of wafers in an implantable medical device. The examiner contended that somehow, though unexplained, it would be inherent in Gnadinger that a stacked arrangement would be used in an implantable medical device.

Applicant is submitting new claims 22-25, which are specifically drawn to a method for forming a stackable wafer for use in an implantable medical device wherein a semiconductor module is mounted inside the housing and includes first and second semiconductor die in a stacked arrangement, wherein the stacked semiconductor die includes circuitry to implement an operational implantable medical device function, and wherein a plurality of the electrical connections extend between the die with each electrical connection comprising an interconnection between a bump on an upper surface of the first die and a contact pad on a lower surface of the second die. The new claims more specifically focus on the novel and inventive aspects set forth in the present application.

Nowhere do either Gnadinger or Akram mention the packaging and forming of stacked semiconductor die in an implantable medical device in the manner set forth in the claims. Nor does either suggest the packaging of stacked semiconductor die in an implantable medical device in the manner set forth in the claims.

Applicant requests that a notice of allowance be issued in due course.

Respectfully submitted,

Date: ~~November~~ ^{December} 2, 2002

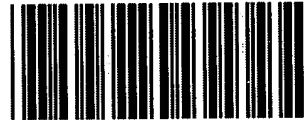
By:



Girma Wolde-Michael

Reg. No. 36,724

Telephone: (763) 514-6402



27581

VERSION WITH MARKINGS TO SHOW CHANGES MADE

Cancel claims 1-21 and enter new claims 22- 25 as follows:

22. A method for forming a stackable wafer for use in an implantable medical device, comprising:

providing a housing;

mounting a semiconductor module inside the housing, wherein said semiconductor module includes first and second semiconductor die in a stacked arrangement, the stacked semiconductor die having circuitry implementing an operational implantable medical device function; and

providing a plurality of electrical connections extending between the die, each electrical connection comprising an interconnection between a bump on an upper surface of the first die and a contact pad on a lower surface of the second die.

23. The method of claim 22 wherein a solder connection is provided for the interconnection between a bump on an upper surface of the first die and a contact pad on a lower surface of the second die.

24. The method of claim 22 wherein delivery of electrical stimulation therapy is performed via said circuitry.

25. The method of claim 22 wherein pacing and sensing function are implemented by the circuitry.